Amendments to the Specification:

Please replace paragraph 0001 on page 1 with the following rewritten paragraph:

[0001] This application is a divisional of U.S. Patent Application 09/952,045, filed September 13, 2001, now U.S. Pat. No. 6,670,153, which claims priority to Provisional Patent Application No. 60/232,349, filed September 14, 2000, each of which is incorporated herein by reference in its entirety for all purposes.

Please replace the Abstract on page 23 with the following rewritten Abstract:

In a method for performing a hot start polymerase chain reaction, a reaction mixture including a primer, a template molecule, and a buffer—but no polymerase enzyme—is loaded in a reaction channel of a microfluidic device. An electrical current is applied to heat the reaction channel. A polymerase enzyme is delivered into the reaction channel, and the reaction channel is subjected to conditions such that the hot start polymerase chain reaction is performed. In a method for performing a temperature mediated reaction, a first component of the temperature mediated reaction is loaded in a reaction channel of a microfluidic device. An electrical current is applied to heat the reaction channel. A second component of the temperature mediated reaction is delivered into the reaction channel, and the reaction channel is subjected to conditions such that the temperature mediated reaction is performed. ~~Microfluidic devices with improved channel and reservoir configurations are provided. More specifically, efficient microfluidic devices for the performance of temperature mediated reactions are provided. These reactions can be performed in an ease of use and efficient manner so as to enable high through put of multiple samples. Methods for performing temperature mediated reactions using the microfluidic devices with improved channel and reservoir configurations have also been provided.~~